



• *Information Transfer Series, No. 5* •

# Designing an Information Management System for Watersheds

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# Foreword

The watershed approach has changed the way that the U.S. Environmental Protection Agency (EPA) and other federal, tribal and state agencies formerly managed water resources programs. We now generally recognize that the critical environmental issues facing society are so intertwined that a comprehensive, ecosystem-based and community-based approach is needed. We also recognize that solving environmental problems depends increasingly on local governments and local citizens. Thus, the need to integrate across traditional water program areas (e.g., flood control, wastewater treatment, nonpoint source pollution control) and to cooperate across levels of government (federal, state, tribal, local) and across public and private sectors is leading toward a watershed approach.

Public and private organizations, academic institutions, and citizens and their governments in thousands of communities across the nation are forming partnerships and learning new ways to manage their watersheds together. These groups seek guidance and examples of watershed approach success stories after which to model their own activities. The EPA Office of Water established the Watershed Academy to help address these needs by providing training for watershed managers based on local, state, tribal, and federal experiences in implementing watershed approaches throughout the past decade.

The Watershed Academy provides technical watershed information and outreach through live training courses, the Internet, and published documents. The Academy offers live training courses on the basics of watershed management and maintains a training catalogue concerning where to obtain more advanced training. An Internet distance learning program called Academy 2000 is being developed to help serve the training needs of those who cannot attend the live courses. The Watershed Academy also provides watershed approach reference materials, such as this document, through the Watershed Academy Information Transfer Series.

This document, number 5 in the Series, is an introduction to the information management responsibilities and challenges facing any watershed group. The document reviews the fundamentals of identifying information management needs, integrating different data bases, evaluating hardware and software options, and developing implementation plans.

The Information Transfer Series titles include:

- no. 1: **Watershed protection: a project focus** (EPA841-R-95-003)
- no. 2: **Watershed protection: a statewide approach** (EPA841-R-95-004)
- no. 3: **Monitoring consortiums: A cost-effective means to enhancing watershed data collection and analysis** (EPA841-R-97-006)
- no. 4: **Land cover digital data directory for the United States** (EPA841-B-97-005)
- no. 5: **Designing an information management system for watersheds** (EPA841-R-97-005)
- no. 6: **Information management for the watershed approach in the Pacific Northwest** (EPA841-R-97-004)
- no. 7: **Watershed Academy catalogue of watershed training opportunities** (EPA841-D-97-001)



# Abstract

To build a foundation for sound decision-making and reduce electronic data transfer time, it is important to build an information management system concurrent with the development of a watershed management framework. Based on watershed management experience in several states, 7 key steps have been identified to design an information management implementation plan.

- 1) Establish information management design and implementation team
- 2) survey watershed planning partners
- 3) identify and prioritize data needs
- 4) integrate/relate existing databases and develop new databases
- 5) evaluate hardware and software configurations
- 6) evaluate organizational , staffing, and support issues
- 7) develop short- and long-range implementation plans.

Recommended milestones and guiding policies for each of these steps are detailed in the report.

**Keywords**

data consortium

information management system

GIS packages

information database



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